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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/319,326	06/03/99	KRANAWETTER G	RCA88250

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EXAMINER	
RAO, A	
ART UNIT	**PAPER NUMBER**
2613	5

DATE MAILED: 10/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

PTO-90C (Rev. 2/95)
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1- File Copy

Office Action Summary	Application No. 09/319,326	Applicant(s) KRANAWETTER ET AL.
	Examiner Andy S. Rao	Art Unit 2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. See attached form US-PTO for specific informalities. Formal drawings will be required when the application is allowed.

2. The drawings are objected to under 37 CFR 1.83(b) because they are incomplete. 37 CFR 1.83(b) reads as follows:

> When the invention consists of an improvement on an old machine the drawing must when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

A). Pages 1 and 2 of the drawings are missing from the application.

Correction is required.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al., (hereinafter referred to as "Kimura") in view of Owen et al., (hereinafter referred to as "Owen").

Kimura discloses a system for processing a digital datastream of MPEG coded image representative information, an MPEG compatible signal processing network comprising: an input network for receiving a datastream of compressed MPEG compatible data (Kimura: column 16, lines 1-8); a decompressor for decompressing for decompressing said compressed MPEG compatible data to produce decompressed data (Kimura: column 16, lines 19-38); and a memory for storing recompressed data (Kimura: column 16, lines 39-43), as in claim 1. However, while Kimura discloses a plurality of similar concurrently operative processors for processing different datastreams (Kimura: figure 17, elements 1702-1 through 1702-4), it fails to disclose a plurality of similar, concurrently operative compressors for respectively recompressing different datastreams derived from said decompressed data to produce recompressed data. Owen discloses a compressor for recompressing datastream derived from said decompressed data to produce recompressed data for storing said recompressed data in a memory (Owen: column 6, lines 27-56; column 7, lines 9-36; column 8, lines 59-68; column 9, lines 1-5) in order to save space in the reference frame memory (Owen: column 9, lines 5-13). Accordingly, it would have been obvious for one of ordinary skill in the art incorporating the Owen recompressors into the Kimura parallel decoders so that space in the Kimura associated memory is conserved (Kimura: column 16, lines 39-41). The Kimura system, now implementing the Owen recompressors in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has all of the features of claim 1.

Regarding claim 2, the Kimura system, now implementing the Owen recompressors in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has that the MPEG compatible data is in the form of pixel blocks (Kimura: column 11, lines 53-57), as in the claim.

Regarding claim 3, the Kimura system, now implementing the Owen recompressors in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has that the MPEG compatible data is in the form of pixel blocks (Kimura: column 11, lines 53-57) comprised of interleaved pixel data (Kimura: column 13, lines 62-68; column 14, lines 1-47), as in the claim.

Regarding claims 4-7, the Kimura system, now implementing the Owen recompressors in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has an interleaving network responsive to said datastream for deriving therefrom multiple datastreams of interleaved pixel data in a predetermined sequence for processing by said multiple compressors (Kimura: column 16, lines 8-11), as in the claims.

Regarding claim 8, the Kimura system, now implementing the Owen recompressors in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has a decompression network for decompressing recompressed data from said memory (Owen: column 6, lines 50-55), as in the claim.

Regarding claim 9, the Kimura system, now implementing the Owen recompressors in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has further includes a motion compensation network (Kimura: column 16, lines 23-25), as in the claim.

Kimura discloses a method of processing a datastream of compressed MPEG coded image representative information comprising the steps of: decompressing said compressed MPEG compatible data to produce decompressed data (Kimura: column 16, lines 19-38); storing recompressed data (Kimura: column 16, lines 39-43), as in claim 1. However, while Kimura discloses a plurality of similar concurrently operative processors for processing different datastreams (Kimura: figure 17, elements 1702-1 through 1702-4), it fails to disclose recompressing a first portion of said decompressed data to produce first recompressed data, and recompressing a second portion of said decompressed data to produce second recompressed data. Owen discloses a method for recompressing datastream derived from decompressed data to produce recompressed data for storing said recompressed data in a memory (Owen: column 6, lines 27-56; column 7, lines 9-36; column 8, lines 59-68; column 9, lines 1-5) in order to save space in the reference frame memory (Owen: column 9, lines 5-13). Accordingly, it would have been obvious for one of ordinary skill in the art incorporating the Owen recompressing into the Kimura parallel decoding methods so that space in the Kimura associated memory is conserved (Kimura: column 16, lines 39-41). The Kimura method, now implementing the Owen first and second recompressing steps in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has all of the features of claim 10.

Regarding claim 11, the Kimura method, now implementing the Owen first and second recompressing steps in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has decompressing recompressed data from said memory (Owen: column 6, lines 50-55), as in the claim.

Regarding claim 12, the Kimura method, now implementing the Owen first and second recompressing steps in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has a further includes a motion compensation step (Kimura: column 16, lines 23-25), as in the claim.

Regarding claim 13, the Kimura method, now implementing the Owen first and second recompressing steps in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has that the data is comprised of interleaved pixel data (Kimura: column 13, lines 62-68; column 14, lines 1-47), as in the claim.

Kimura discloses a method of processing a datastream of compressed MPEG coded image representative information representing image pixel data including, an MPEG compatible decoding method for producing finally decoded pixel data for processing by a display processor , said decoding method comprising the steps of: decompressing said compressed data to produce decompressed data (Kimura: column 16, lines 19-26); deriving finally decoded motion compensated pixel data from said pixel data (Kimura: column 16, lines 27-39); and storing data obtained in said deriving step in memory (Kimura: column 16, lines 39-43), as in claim 1. However, while Kimura discloses a plurality of similar concurrently operative processors for processing different datastreams (Kimura: figure 17, elements 1702-1 through 1702-4), it fails to disclose that the deriving step further includes the step of respectively recompressing different datastreams derived from said decompressed data to produce recompressed data. Owen discloses a method for recompressing datastream derived from decompressed data to produce recompressed data for storing said recompressed data in a memory (Owen: column 6, lines 27-56; column 7, lines 9-36; column 8, lines 59-68; column 9, lines 1-5) in order to save space in

the reference frame memory (Owen: column 9, lines 5-13). Accordingly, it would have been obvious for one of ordinary skill in the art incorporating the Owen recompressing into the Kimura parallel decoding methods so that space in the Kimura associated memory is conserved (Kimura: column 16, lines 39-41). The Kimura method, now implementing Owen's recompressing step in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has all of the features of claim 14.

Regarding claims 15-16, the Kimura method, now implementing Owen's recompressing step in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has the method of further separating the datastream into multiple data streams (Kimura: column 16, lines 1-7), as in the claim.

Kimura discloses a system for processing a digital datastream of MPEG coded image representative information, an MPEG compatible signal processing network comprising: an input network for receiving a datastream of compressed MPEG compatible data (Kimura: column 16, lines 1-8); an interleaving network responsive to said datastream for deriving therefrom multiple datastreams of interleaved pixel data in a predetermined sequence for processing by said multiple compressors (Kimura: column 16, lines 8-11); a decompressor for decompressing for decompressing said compressed MPEG compatible data to produce decompressed data (Kimura: column 16, lines 19-38); and a memory for storing recompressed data (Kimura: column 16, lines 39-43), as in claim 1. However, while Kimura discloses a plurality of similar concurrently operative processors for processing different datastreams (Kimura: figure 17, elements 1702-1 through 1702-4), it fails to disclose a plurality of similar, concurrently operative compressors for respectively recompressing different datastreams derived from said decompressed data to

produce recompressed data. Owen discloses a compressor for recompressing datastream derived from said decompressed data to produce recompressed data for storing said recompressed data in a memory (Owen: column 6, lines 27-56; column 7, lines 9-36; column 8, lines 59-68; column 9, lines 1-5) in order to save space in the reference frame memory (Owen: column 9, lines 5-13). Accordingly, it would have been obvious for one of ordinary skill in the art incorporating the Owen recompressors into the Kimura parallel decoders so that space in the Kimura associated memory is conserved (Kimura: column 16, lines 39-41). The Kimura system, now implementing the Owen recompressors in each one of the Kimura decoders (Kimura: figure 17, elements 1702-1 through 1702-4), has all of the features of claim 17.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Purcell discloses a structure and method for motion estimation of a digital image by matching deriving scores. Auld discloses a method and apparatus for segmenting memory to reduce the memory required for bidirectionally predictive-coded frames. Yu discloses pixel block compression apparatus in an image processing system. Botsford, III discloses a temporarily pipelined predictive encoder/decoder circuit and method. Yogeshwar discloses a compression based reduced memory video decoder.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (703)-305-4813. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S. Kelley can be reached on (703)-305-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-5359 for regular communications and (703)-308-5359 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-4700.

Andy S. Rao
Primary Examiner
Art Unit 2613

ANDY RAO
PRIMARY EXAMINER

asr
September 25, 2001